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**Pop, Hip-Hop and Jazz/R&B Genre Analysis and
Interpretation
(CPO0721 F2 Essay)**

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In this essay I will discuss the defining characteristics of selected reference material in the genres of Pop, Hip-Hop, and Jazz/R&B respectively. I will then provide insight into how the production techniques used in the reference conform to their respective genres, how this has influenced my original works, how I have made additional musical decisions throughout my creative process, and provide reflection on how the tracks could be improved.

Pop music often refers to a particular branch of popular western music, yet the characteristics of this ever-evolving genre can be hard to pin down. Some defining features of this genre include emphasis on modern electronic technology in the recording studio, and the focus on the voice as the centre point of the song (Warner, 2003). The reference tracks I have chosen to analyse from this genre are Track 1 “STAY” (The Kid LAROI ft Justin Bieber), and Track 2 “Hold On” (Justin Bieber). My original work inspired by these pieces is Track 3 “Clock Time” (Daniel Newcombe).

Both reference tracks chosen in the pop genre were released in 2021 (The Official UK Charts Company, 2021), but they lend from past eras in their production techniques and use of equipment, such as the implementation of analog synthesisers - namely the Roland Juno 60 which provides the main instrumental riff in “STAY” by utilising patch 27 (Puth, 2021). Chorus (an effect which is built-in to the Juno-60) was used on this sound, which causes phase differences between two signals by creating a delayed copy of the original source. Additional effects include the use of a ping-pong delay - an effect which captures an audio source and repeats it back one or multiple times shortly after the original sound, with the repeats alternating between left speaker and right speaker (Izotope Education Team, 2021).

The Juno 60 was released in 1982 and built upon the legacy of its predecessor the Juno 6 by providing the ability for users to save and recall sounds (Roland Corporation, 2021). By using this synthesiser as the main musical instrument in “STAY”, primary producer Charlie Puth was able to create a nostalgic and vintage tone to set the stage for the modern pop track (Eggertsen,C., 2021).

Whilst the Roland Juno 60 is a powerful musical creation tool, it comes at a price which is out of reach for most upcoming producers. To adapt to my budget whilst still seeking the feeling and tone of the 1980s inspired “STAY”, I chose to use a software emulation of a Prophet-5 synthesiser for my synth-bass sound, developed by Arturia. The original Prophet-5 synthesiser was released in 1978 by Dave Smith, just four years before the aforementioned Roland Juno 60 became available (Preve, 2012). Additionally, I also used chorus and delay effects on my main synthesiser sound, to provide a feeling of rhythmic movement to the repeated eighth note motif throughout. Upon reflection I think it would have been greatly beneficial to utilise a hardware analogue synthesiser for a more authentic tone which no plugin can emulate with complete accuracy.

Making use of creative tools from previous eras is a technique utilised in the second reference track “Hold On” too, as producers Andrew Watt and Louis Bell interpolated the vocal melody of Goyte’s song “Somebody I Used To Know” which was released 10 years prior in 2011 (Watt and Bell, 2021). Instead of following a linear development, pop music tends to go through cyclical patterns (Warner, 2003), and interestingly, “Somebody I Used To Know” also makes use of sampling, using a direct sample of Luiz Bonfá’s “Seville” as it’s main riff (Grean, 2021).

Another key production technique heard in the pop reference material is the use of high-energy *allegro* and *vivace* tempi. “STAY” is performed at 170 beats per minute (bpm) and “Hold On” at 140bpm (Musicstax, 2021). For my original work I felt that a high tempo was imperative to create the driving feel I had heard in the references, so I chose to create my track at a *vivace* tempo of 170bpm. The drum pattern I used has a strong snare backbeat on beats 2 and 4 of every measure, mirroring the drum grooves of both reference tracks. In combination with the off-beat syncopation of the synth-bass part, the result is an upbeat moving groove which lays a solid foundation for the repeating synthesiser melody and rhythmic vocal top line.

In a continued ode to the sound of popular music from the 1980s, the reference material makes use of gated reverb. This technique was created by Hugh Padgham and Steve Lillywhite during a recording session for Peter Gabriel’s ‘Melt’ album, released in 1980 (Prog Archives, n.d). The technique was stumbled upon when the sound of Phil Collins drums were picked up by a talkback microphone in the SSL mixing console which had a noise gate applied to it (Drewett, Hill and Kärki, 2016). A noise gate is an audio effect which allows signal to pass through it when the amplitude of the signal reaches a set threshold, whilst any signal with an amplitude below the threshold is not heard through the gate. Because of this, the natural decay of the reverb was cut short as it dropped below the gate threshold, creating a punchy and impactful drum sound that went on to feature heavily in countless hit songs of the 1980s, including In the Air Tonight by Phil Collins (1981), I Would Die 4 U by Prince (1984), and I Wanna Dance with Somebody by Whitney Houston (1987) (Séliukas, 2021).

The production process of many popular songs from the 1980s made use of recording full drum kits with multiple microphones which were combined using a mixing console and recorded to a a tape machine (Vox, 2017). In modern pop music today programming using a Digital Audio Workstation is much more common, where audio samples of drum recordings can be placed on to a set timeline (Marrington, 2017). To continue in the theme set by the reference tracks, I used a reverb plugin to create a gated reverb effect on the tom samples which play fills to transition between sections of my song. This is also heard in the reference material, throughout “STAY” and specifically in “Hold On” preceding each chorus.

My second genre of focus was Hip-Hop, for which I chose the reference material of Track 4 “Outside” (D Block Europe) and Track 5 “droptopbitch” (lilspirit). My original work is Track 6 “Michael” (Daniel Newcombe). Though once described as “a musical genre consisting of a stylized rhythmic music...[accompanied by] rapping, a rhythmic and rhyming speech that is chanted” (ISU Ice Dance Music Rhythms Booklet, 1995), Hip-Hop is a dynamic and ever evolving style of music (Phillips, 2019).

The genre has developed significantly during the 2000s and has evolved to incorporate melodic singing as well as rapping, a style development led by artists such as Drake and Kanye West (Caramanica, 2019). Both reference tracks selected make use of a melodic singing style, and feature Autotune as a performance tool for the vocalist. Autotune is a pitch correction effect used in almost all modern hip-hop songs. In 2009, every week of the Billboard Hot 100 chart featured at least one song with an intentional and audible use of autotune in the top 5 (Diaz, 2009). To implement this technique in my original work, I used an autotune plugin as an effect on the vocals, at a very high speed setting. This setting ensures that the signal which the autotune plugin received is pitch-corrected extremely quickly and attributes its style to that heard in the reference material.

I utilised additional vocal processing by using plugins, including a software emulation of an LA-2A compressor. If budget allowed, I would have preferred to use a hardware unit of the LA-2A, due to the T4 optical attenuator in the unit which provides a warm and smooth compression to the source material (Sage Audio, 2021). Furthermore, recording through an analog compressor would have been advantageous to applying analog compression before the signal passed through my analog to digital convertors in my audio interface - thus reducing the need for heavy compression to the digital signal inside of my Digital Audio Workstation.

A key influence on the style of the reference material comes from a sub-genre of Hip-Hop known as Trap music, specifically as it pertains to drum programming. The noticeable and repetitive nature of this style of drum programming has been regarded as unique and complicated due to the rapid syncopation of the hi-hat sounds which contrast a simple kick and snare drum rhythm (Setaro, 2018). For my original work in this genre, I used a hi-hat pattern which revolved around sixteenth notes and dotted eighth notes, and combined them with a kick drum sample on beat 1 of the measure, and a snare drum sample on beat 3 of the measure. Another key reason for the simplicity of the kick drum pattern chosen is to allow enough low-frequency room for the 808 bass line to exist in the sub-bass region of the mix, from 40Hz to 100Hz.

The term 808 originally derives from the Roland TR-808 drum machine first built in 1980, a creative tool used on more hit records than any other drum machine of all time (Hasnain, 2017). In it's modern hip-hop context, producer Rick Rubin discovered that by tuning the bass drum sound to full decay, the TR-808 could be used to create melodic bass lines (Leight, 2016). In modern digital audio workstations, producers such as Zaytoven have developed this technique in recent years as tracks have become more focused on low-end bass lines, in order to allow space in the mid-range for the vocalist (Tingen, 2018). The reference track "Outside" utilises a unique combination of bass sounds, alternating between the familiar 808 bass during the chorus of the song, and a Moog-style synth bass playing higher notes in the verses. Interestingly, the Moog-style synth bass is only used in sections where the drums are not present in the arrangement, allowing it's mid-range heavy character to cut through clearly without competing sonically with the kick drum.

In my original track I processed the 808 bass sound using compression and overdrive. Compression is an audio processing technique which allows the overall dynamics and volume of a signal to be controlled (Messitte, 2019), and overdrive is a type of audio saturation which is designed to emulate the sound of a tube amplifier at a high volume. This introduces additional frequencies that build on top of the root frequency of the source note, also known as harmonics (Masterclass, 2021). The combination of these audio effects added to the source material creates a powerful sounding overdriven bass tone with a consistent intensity throughout each note. These techniques can be heard in the reference track "droptopbitch", specifically on the 808 bass. Though the fundamental frequency (28Hz) from the bass part can not often be replicated at an audible volume on small speakers, the upper harmonics created by saturation are heard, which allows the listener to understand what the root note truly is due to its harmonic spacing (Darwin,n.d).

From a compositional standpoint, both reference tracks make use of a simple repeating chord sequence. "droptopbitch" uses the ii minor chord, the iii minor chord, and vi minor chord, in constant repetition. As aforementioned, a key production technique in the Hip-hop genre is to allow mid-range space for the vocal to be present, and with this in mind I

also chose a simple chord sequence of vi minor, V major, and IV major⁷. This sequence is led predominately by an acoustic guitar, and I used a large diaphragm condenser microphone to capture not only the mid-range harmonic content of the chordal structure but also the natural artefacts of finger and fret noise, which I believe adds to the authentic tone of the recording. This authenticity helps the song to have a genuine emotion which is imperative in Hip-Hop music, a genre known for self-authenticity and designed to be a representation of one's own experience (Williams, 2007).

For my third choice of reference material, I selected two songs from the Jazz/R&B genre: Track 7 "Distance" (Emily King) and Track 8 "Morning Sun" (Melody Gardot). My original piece inspired by these songs is Track 9 "With You" (Daniel Newcombe). The defining characteristics of this hybrid genre take influence from both jazz; incorporating live instrumentation and improvised performance (Martin and Waters, 2011), and R&B; utilising romantic lyrical themes and rich chordal harmony (Ripani, 2006). Additional features of the reference material include the prominent use of vibrato and melisma in the vocal performance, a style which can be attributed to the influence of gospel and blues on R&B music (Ripani, 2006).

The reference track "Morning Sun" (Melody Gardot) features an intimate and delicate vocal delivery, with a mellow, lullaby-like sound (Weiner, 2015). In my original track, great emphasis was placed on the vocal performance, with intentionally subtle and sparse instrumentation chosen to support. Many modern recordings make use of a technique known as 'comping', described by Mike Senior of Sound On Sound as "using audio editing to put together supernaturally good performances from the best bits of several different recording takes" (Senior, 2011). However, I opted to have the vocalist record the song in full takes repeated multiple times, with encouragement to improvise, in pursuit of the improvisational approach so key to the jazz genre (Martin and Waters, 2011).

Both pieces of reference material feature reverb, an effect which emulates the sound of waves reflecting from multiple surfaces back to the listener as a continuous sound (Izotope Education Team, 2020). The sense of space created by this effect provides the songs with a soft and open sound. Similarly, I chose to use a plate reverb plugin on the lead vocal recording in my original song, to allow for an ambient touch to the feeling of the song whilst maintaining a sense of authenticity. An additional feature utilised during the mixing stage of my track was to apply a pre-delay to the reverb effect. Pre-delay is the amount of time between the direct sound and the start of the first reflections (Izotope Education Team, 2020). The use of this feature is imperative to maintaining a clear and intelligible vocal sound whilst using reverb, so that the lyric can be heard clearly before the reverb effect provides reflections following the original signal. To preserve the quality and intelligibility of the lyrical content, with emphasis on a romantic theme so key to the R&B genre (Madanikia and Bartholomew, 2014), the pre-delay effect was used.

An additional key attribute of Jazz/R&B music is the use of rich chordal harmony, specifically the use of extended chords. Ripani (2006) explores the popularity of the seventh interval in R&B music across both minor and major chords, as well as the common use of non-diatonic harmony, such as a flat sixth note, otherwise described as a "blue note" by jazz and blues musicians. These chordal choices can be traced back to early jazz and soul music which influenced the first iterations of R&B music in African American culture from the 1980s onward (Hoffmann 2006). The reference track "Morning Sun" (Melody Gardot) is in the key of Db major two primary chord sequences - the first of which starting on the tonic (Db major), and the second starting on the subdominant (Gb major) (Gardot, 2015). Taking inspiration from this compositional approach, but in altering

the key of the song to best suit the vocalist, I opted to create my original work in the key of F Major, and alternated between a sequence starting with the tonic (F major) and the subdominant (Bb major). Further development of these chordal voicings included the use of the major seventh and minor seventh interval to continue the theme of popular R&B harmony choices.

A key characteristic of Jazz/R&B music is the use of live instrumentation (Martin and Waters, 2011), with reference track “Distance” featuring a recorded live drum kit. “Morning Sun” utilises upright piano, upright bass, and drum kit played with brushes (Gardot, 2018). In taking inspiration from the authentic live tone of these instruments, yet without the facility to record them at home, I sought to replicate the sounds electronically in my Digital Audio Workstation. I used MIDI sequencing, a process which uses the Musical Instrument Digital Interface protocol to allow music producers to use virtual instruments (electronic emulations of acoustic instruments) to create the sound of an instrument without the need for a specific acoustic environment or microphones (Huber, 2012). Despite the convenience and ease of using MIDI, the over-use of its features can often reduce the ‘human’ element of music performance (Moore, 1988). Such features include quantisation - the process of moving MIDI data on to a specific place in a timing grid, which allows the Digital Audio Workstation to establish the rhythmic criteria of a performance, rather than the musician (Anderton, 2021). In light of this, I chose not to apply any additional MIDI processing to the musician’s performance, to allow the human dynamics and rhythmic cadence to be unedited. Upon reflection, I believe that the genuine recording of upright piano, upright bass, and drum kit would have increased the sonic quality and live feeling of my track. As well as the benefit of human rhythm and dynamics heard in the live recorded reference material, the synergy of the musicians naturally playing all in unison may have sparked some additional compositional and improvisational ideas, thus adding creative interest to my song.

The reference tracks are true to their own genre and yet borrow from different eras and styles to help them tell their unique story. My own tracks utilise an amalgamation of these features and expand creatively to have their own voice in their respective genre spaces. Whilst not copying ideas or composition choices, the songs are true to their genre style and display a strong range of dynamic production techniques throughout. Studying the key features of the reference material has allowed me to develop an understanding of how each of the genres function and which production techniques to employ in varying musical environments going forward.

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